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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,830	08/21/2003	Toshihiro Ise	Q76394	6159

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EXAMINER	
LE, THAO X	

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/644,830	ISE, TOSHIHIRO	
	Examiner	Art Unit	
	Thao X. Le	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-4, 7-10, 12 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6597012 to Kido et al.

Regarding claim 1, Kido discloses a light emitting element in fig. 1 comprising at least one organic layer which includes a light emitting layer 5, and which is disposed between a pair of electrodes 7/2, wherein at least one layer of the at least one organic layer contains at least one compound consisting essentially of carbon, fluorine, and nitrogen, formula (27) in column 9, and wherein the compound contains hydrogen atoms in an amount not greater than one hydrogen atom per six carbon atom.

Regarding claims 3-4, Kido discloses the light emitting element wherein the compound consisting essentially of carbon, fluorine and nitrogen is a compound represented by the following general formula (A):

General formula (A)

X - (R)n

wherein in general formula (A), X represents an aromatic ring group or a hetero cyclic ring group, which have atoms selected from the group consisting of carbon, fluorine and nitrogen; R represents a group consisting of carbon and fluorine, or a group consisting of carbon, fluorine and nitrogen; n represents an integer of 1 or more; and when X contains no nitrogen, at least one R contains at least one nitrogen, see formula (27) in column 9, wherein X further represents a single ring or a condensed ring, column 18 line 11.

Regarding claims 7-9, Kido disclose the light emitting element, wherein the compound has a glass transition temperature at least 85°C, column 1 line 65,

With respect to 'wherein light emission from an excited triplet state is utilized the compound has a minimum excitation triplet energy level of 65kca1/mo1 (272.35kJ/mo1) to 95 kcal/mol (398.05 kJ/moll)' are only a statement of the inherent properties of the compound. When the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent or obvious. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

Regarding claim 10, Kido discloses the light emitting wherein the compound is used as an electron transporting material 6, fig. 3.

Regarding claim 12, Kido discloses the light emitting element wherein the compound 6 is used as a host material in a layer containing a light emitting material 5, column 18 line 14.

Regarding claim 18-19, Fink disclose the light emitting element comprise organic layer 5.

The process limitations "heating vapor deposition, coating, or transferring method" in claim 6 do not carry weight in a claim drawn to structure. In re Thorpe, 277 USPQ 964 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3-4, 20-22, 24-27, 36-37 are rejected under 35 U.S.C. 103(a) as being obvious over US 6824891 to Okada et al.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and

reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claims 1, 20, Okada discloses a light emitting element comprising at least one organic layer which includes a light emitting layer and which is disposed between a pair of electrodes, see abstract wherein at least one layer of the at least one organic layer contains at least one compound consisting essentially of carbon, fluorine, and nitrogen, formula (C-II) in column 22, and wherein the compound contains hydrogen atoms in an amount not greater than one hydrogen atom per six carbon atom.

But, Okada does not explicitly disclose the one compound consisting of fluorine.

However, Okada discloses the R^{c11}, R^{c12}, and R^{c13} can have a substituent including halogen (halogen group comprises fluorine). At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the teaching of Okada as claimed, because the halogen including fluorine is well known in the art or periodic table Group VIIa.

Regarding claims 3-4, 21-22, Okada discloses the light emitting element wherein the compound consisting essentially of carbon, fluorine and nitrogen is a compound represented by the following general formula (A):

General formula (A)

X - (R)n

wherein in general formula (A), X represents an aromatic ring group or a hetero cyclic ring group, which have atoms selected from the group consisting of carbon, fluorine and nitrogen; R represents a group consisting of carbon and fluorine, or a group consisting of carbon, fluorine and nitrogen; n represents an integer of 1 or more; and when X contains no nitrogen, at least one R contains at least one nitrogen, wherein X further represents a single ring or a condensed ring (a heterocyclic structure is either single or condensed ring).

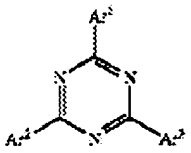
Regarding claims 24-27, Okada does not disclose the light emitting element, wherein the compound has a glass transition temperature at least 85°C, wherein light emission from an excited triplet state is utilized the compound has a minimum excitation triplet energy level of 65kca1/mo1 (272.35kJ/mo1) to 95 kcal/mol (398.05 kJ/moll). The recited limitations are only a statement of the inherent properties of the compound. When the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent or obvious. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

Regarding claim 36-37, Okada discloses the light emitting element comprise organic layer.

The process limitations "heating vapor deposition, coating, or transferring method" in claim 6 do not carry weight in a claim drawn to structure. In re Thorpe, 277 USPQ 964 (Fed. Cir. 1985).

5. Claims 5-6, 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6824891 to Okada et al in view of US 6166125 to Sugiyama et al.

Regarding claims 5-6, 23-24 Okada discloses the light emitting element comprise triazine having the formula:



But, Okada does not disclose the Ar^{1-3} is selected from the group consisting of aryl consisting of carbon and fluorine or perfluorophenyl.

However, Sugiyama discloses the triazine ring, column 4 line 35, consisting of perfluorophenyl, columns 18 line 11. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the perfluorophenyl substituent teaching of Sugiyama in Okada's triazine ring, because it would have created an optical plastic material having improved thermal resistance as taught by Sugiyama, column 11 lines 38-42.

6. Claims 11, 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6597012 to Kido et al in view of Applicant Admitted Prior Art (APA).

Regarding claim 11, 13, Kido does not disclose the light emitting element of claim 10, wherein the compound, which is used as an electron transporting material, is

contained in an amount of 60 to 100% by mass in an organic layer containing the electron transporting material and a host material is contained an amount of 50 to 99.9% by mass in an organic layer containing the host material.

However, Kido discloses the electron transport and host material have a general mass. Accordingly, it would have been obvious to one of ordinary skill in art to use the mass teaching of Kido in the range as claimed, because it has been held that where the general conditions of the claims are discloses in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation. See In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955).

Regarding claims 14-17, Kido does not disclose the light emitting wherein the one organic layer contains a phosphorescent material comprises metal complex consisting of iridium complex.

However, APA discloses organic EL element comprise iridium complex, specification page 1. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the iridium complex teaching of APA with Fink's organic layer, because it would have improve the device efficiency as taught by APA, specification page 1.

7. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6824891 to Okada et al in view of US 6597012 to Kido et al.

Regarding claims 28 and 30, Okada does not disclose the light emitting wherein the compound is used as an electron transporting material and host material.

However, Kido discloses a light emitting wherein the compound is used as an electron transporting material 6, fig. 3 and a host material, column 18 line 13. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the electron transporting material 6 teaching of Kido in Okada's device, because it would have improved the luminous efficiency and improving the driving life of the device as taught by Kido, column 18 lines 3 and column 19 lines 26-27.

Regarding claims 29, 31, Okada does not disclose the light emitting element of claim 10, wherein the compound, which is used as an electron transporting material, is contained in an amount of 60 to 100% by mass in an organic layer containing the electron transporting material and a host material is contained an amount of 50 to 99.9% by mass in an organic layer containing the host material.

However, Kido discloses the electron transport material and host material have a general mass. Accordingly, it would have been obvious to one of ordinary skill in art to use the mass teaching of Kido in the range as claimed, because it has been held that where the general conditions of the claims are discloses in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation. See In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955).

8. Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6824891 to Okada et al in view of Applicant Admitted Prior Art (APA).

Regarding claims 32-35, Okada does not disclose the light emitting wherein the one organic layer contains a phosphorescent material comprises metal complex consisting of iridium complex.

However, APA discloses organic EL element comprise iridium complex, specification page 1. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the iridium complex teaching of APA with Fink's organic layer, because it would have improve the device efficiency as taught by APA, specification page 1.

Response to Arguments

9. Applicant's arguments filed on16 Feb. 2005 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X. Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thao X. Le
04 Nov. 2004

LONG PHAM
PRIMARY EXAMINER